

apparently merely to split the bark in the usual way. But, at a height of about 20 feet from the ground (as I judged), something in the nature of an explosion must have taken place. Not only is the bark stripped absolutely clean off in large sheets from the level of the ground up to a height of about 30 feet, some of the sheets having been shot to a considerable distance, but where the explosion seems to have occurred, and for a considerable height above and below, the solid timber is burst open and broken into shivers, and the tree, which was a very fine one, is broken short across at the point where the greatest amount of splintering has taken place. Here, too, a considerable branch seems to have been wrenched off by the explosion.

The other tree is at a distance of perhaps 30 yards, and was, if anything, a still finer one. The appearances here are precisely similar, except that the lightning, which I imagine was conducted along the wet surface of the twigs and smaller branches at the top of the tree down to the junctions of the main branches with each other and the stem, here appears to have struck into the wood, tearing the bark up into rough filaments, which still remain attached to the surrounding bark. Most of this tearing occurs at the angles where the main branches join; but I noticed two places, each about the size of a five-shilling piece, each of which was at some distance above an angle. One such "bruise" appears also in the first-mentioned tree, some distance above the broken bough where the main body of the electricity appears to have entered. The "explosion" in the second tree was at a less height than that in the other.

It has been suggested that a good deal of the splintering may have been caused by the trees, weakened by the stroke, having been broken short off by the storm of wind which presumably raged at the time. I do not think this a probable explanation, for the following reasons. The trees are well within a considerable wood, where the effect of such a gale would not be fully felt, while the two tops are now lying almost at right angles to one another; not parallel as one would expect if the same gale of wind had overthrown them. It appears most probable that a violent explosion occurred, not exactly in the middle of the stem, but rather to the side remote from that to which the tops have fallen. I think it will be found that all the appearances agree with this explanation.

The destructive nature of the strokes cannot be adequately described by words: long splinters, of wedge-shaped section, are sticking up everywhere at the place of fracture, while many feet below it a pen-knife can be inserted easily in numbers of crevices which run up and into the stem along the radial lines which are always formed in the growth of oak timber, and which have here been split open.

Some black stains on the soil at the foot of the trees are pointed out as the effect of the "fire." It will be seen, however, that these are caused by the tannin in the oak sap staining the iron-impregnated clay soil.

I have seen numbers of lightning-struck trees, but have never seen anything to compare with these, and I much hope that some one, with more knowledge of lightning and its effects than I have, will take the train to St. Albans, with a photographic apparatus, and see and judge for himself, and give us some explanation. If he will write to my father (Rev. Dr. Griffith, Sandridge Vicarage, St. Albans, Herts), with a couple of days' notice or so, he will be happy to do all in his power to help, and will no doubt drive him to the spot.

Readers of NATURE may possibly remember a former letter of mine, written, if I recollect aright, in the autumn of 1879, describing a sparrow and her nest, flung out of a crevice in a chimney struck by lightning—the bird almost entirely plucked. The bird I placed in spirits, and deposited in the Cavendish Museum at Cambridge. The barking of these trees reminded me of the plucking of that bird.

A. F. GRIFFITH.

15 Buckingham Place, Brighton, August 8.

A Brilliant Rainbow.

FROM the veranda of this Club, several of the members, including myself, have, within five minutes of the time of writing this (6.30 p.m.), witnessed a phenomenon the parallel to which we have never seen before—a most brilliant rainbow, the usual parallel reflection, and another rainbow or reflection quite as brilliant as the ordinary and usual reflection, at an angle

which I sketched at the moment, but which, as I have no compasses, I cannot draw semicircular. The tide is out, and nothing but little puddles of sea are left. E. BURTON DURHAM.

Alexandra Yacht Club, Southend-on-Sea, August 11.

THE 1851 COMMISSIONERS' ESTATE AT KENSINGTON.

A NEW light has been thrown upon the proposals of the Commissioners of 1851, to make grants for provincial Museums, and to found Scholarships of science and art, which were discussed in NATURE of July 18 (p. 265). As was then explained, the carrying out of these proposals would necessitate the sale of a considerable portion of the Commissioners' estate at Kensington Gore. We also showed that public protests had been raised during the last three months against any such sale; further, that State aid in co-operation with local effort has provided the country with a system of science and art Scholarships and grants for provincial institutions, and that the Commissioners are not in a position also to launch and administer a corresponding system of grants and Scholarships themselves, for the benefit of the country. But as the Commissioners have published a notification of their intention to proceed with their scheme, it is perhaps but natural that, when it is attacked, they should defend their position as ably as may be. The attack which has been made upon their scheme is twofold in character, but it aims chiefly at the preservation of the inner gardens of the estate from the degradation of being sold for and used as a common site for private houses, to the unavoidable detriment of the institutions upon the estate.

As regards the scheme for grants and Scholarships, Mr. Samuelson, M.P., gave notice of a question in the House of Commons to Sir Lyon Playfair, the gist of it being whether, in formulating their scheme, the Commissioners had examined, and taken account of, the scheme (identical in direction) which has been for years and is in operation under the Science and Art Department. Sir Lyon Playfair transferred the answering of this question to the Home Secretary, who stated accordingly that the Commissioners' scheme was being prepared, and would be printed in due course and laid before the House of Commons. Under these circumstances, we may postpone further remarks upon the Commissioners' grants and Scholarships scheme until it is printed in a complete form and submitted as promised.

In the meantime, however, we must take notice of another incident connected with the Commissioners and their proposals. On July 19, Mr. Bartley, M.P., gave notice of a question to be asked of Sir Lyon Playfair on July 22. The question was, whether Sir Lyon would, as a Commissioner of 1851, state the names of the different persons, public bodies, and institutions which had sent protests to the Commissioners for the Exhibition of 1851, against the proposed sale of part of the inner gardens of their estate at Kensington Gore for private buildings. Sir Lyon Playfair, however, was not in his place when the question should have come on on the 22nd. It was postponed to the 23rd; and when the printed notice paper for that day appeared, it was found that an arrangement had been made for the question to be answered, not by Sir Lyon Playfair, but by his brother Commissioner, the Home Secretary. The question was therefore asked of that Minister, and, before the answer to it could be given, Sir Lyon Playfair got up and asked whether the right hon. gentleman was aware that a deputation of the Mayors of nearly all the largest towns in England and Wales, representing a population of more than 3,000,000, had waited on the Commissioners to urge that the property in South Kensington should be sold and realized, in order to be applied to provincial Museums. Mr. Matthews replied to both the questions in one answer.

There had, he said, been protests from public bodies and towns against the sale of the estate, and it was also the case, as indicated in the question of Sir Lyon Playfair, that a deputation had waited on the Commissioners and urged the sale. The impression thus conveyed was, that the Commissioners had quite recently been between two fires, and had given way under the hottest. This would be a poor enough plight for a body of public men, who, up to within the last three or four years, had been consistent and strong enough to adhere to the main lines of a policy traced out for them in 1852, when they were charged with a public trust. But it is worse than a poor plight when considered, as it has to be, in conjunction with matured opinions and resolutions published by that same body of men in 1878.

The deputation to which Sir Lyon Playfair directed attention waited on the Commissioners, not, as was imagined, quite recently, but as long ago as 1877. The deputation was received at Marlborough House on June 20, 1877, and was headed by Mr. Chamberlain. The Prince of Wales made a very brief reply to it; and Lord Granville delivered a full exposition of the Commissioners' reasons for disagreeing with the views of the deputation. The deputation "proposed, as the best method of dealing with the Commissioners' trust: (1) the realization of the estate to as great an extent as possible; and (2) the application of the realized funds, in grants to provincial Museums for buildings, and for the purchase of suitable objects for exhibition therein." Amongst other statesmanlike views of their responsibilities towards their trust and to the public at large, Lord Granville, on behalf of the Commissioners, pointed to the importance, in the founding of provincial Museums, of voluntary subscriptions, and to the "danger of stopping the flow of them if you [the deputation] get a great central body supplying everything. There is the consideration how far even a large sum would go." The possibility of realizing a portion of the estate was mentioned; but it should be clearly stated that that portion of the estate was a site lying to the *south* of the present Imperial Institute. No portion of the inner gardens, upon which the Albert Hall abuts, was to be put up for sale.

It will be useful to now give extracts from the Sixth Report of the Commissioners published in 1878, shortly after the deputation above referred to had waited on them.

"The claim of the provincial towns to share in the application of our funds was supported by two considerations. In the first place, it was said that the support which enabled the Exhibition of 1851 to be held was obtained, to a large extent, from our great manufacturing centres. As a fact, the metropolis subscribed £35,108 16s. 11d., and the provinces £34,057 12s. 8d. The second consideration urged was the difficulty which is felt in provincial towns in raising, by means of rates, amounts adequate to meet the expenses of building and maintaining scientific museums and galleries of art.

"That we are not insensible to the claims of the provinces to a share of the benefits to be derived from the resources at our command will be seen from the resolutions at which we have arrived, but as to the form in which such benefit should accrue we hold different views from those expressed by the deputation. In the first place, we consider that the proposal to capitalize the whole of our property cannot be entertained, because, apart from all other reasons, it is sufficient for our present purpose to observe that it would clearly be at variance with the appropriation of the land originally contemplated, and a reversal of the whole past policy of our body.¹

¹ "The following is an extract from our Second Report, dated in 1852:—'A large number of suggestions and applications, in reference to the disposal of the surplus, have been made to the Commissioners. . . . The answer which the Commissioners have returned to the different applications submitted to them has been to show, by reference to their preliminary Report to Her Majesty, of the 6th of November of last year, that they do not feel them-

"The object with which, under the guidance of the Prince Consort, we purchased the estate was to provide a remedy for the want so often felt in this country of an extensive site for the development of great institutions for the promotion of industrial art and science amongst the manufacturing population. The South Kensington Museum and the Museum of Natural History are two great monuments of the prudence of the course adopted, and, so long as the wants of technical education are so inefficiently provided for in this country as they are at present, we think that we ought to keep in our hands the means of meeting the possible requirements of institutions for that purpose. . . .

"The suggestion that the resources at our command might be applied to the promotion of local Museums of Science and Art, by grants in aid of buildings or collections of suitable objects, had received our full consideration before the deputation of provincial municipal representatives, already referred to, pressed this course upon us. The establishment of local Museums is an object which has long commended itself to us. In the original scheme, drawn up in the year 1868, for the series of annual International Exhibitions, it was proposed that 'a sum of money might be annually devoted to make purchases of remarkable objects, which might be sent to local Museums throughout the country.' If this scheme had proved permanently successful, we might have been able to supply, by degrees, each of the principal centres of industry with collections of objects illustrating the manufactures in which they are chiefly interested. But, in the present condition of our trust, we see several objections to the promotion of local institutions as a method of applying our resources. Firstly, the amount of the funds at our disposal is very limited, as compared with the numerous demands which might legitimately be made upon us in case we announced our readiness to make grants in favour of local institutions. Secondly, we fear the risk that the knowledge that a central body was ready with funds to assist local objects would have the effect of decreasing rather than stimulating private local subscriptions, and of producing a lukewarmness in local efforts which would far more than counterbalance the moderate amount of assistance which a share of our funds would provide. Thirdly, and chiefly, it is evident that such grants, while exhausting our funds, would result in mere temporary help to science and art."

The above extracts relate to the deputation to which Sir Lyon Playfair has drawn attention, and upon whose views, very distinctly controverted by the Commissioners, he seems to rely for justification in setting aside the protests made within the last three months against a sale such as the Commissioners have been opposed to.

It is therefore difficult to escape from some such conclusion as this: that the projected sale of the inner gardens of the estate for private building speculations will be an autocratic act utterly ruinous to the character of the Commissioners; and that the Commissioners persist in defending and urging this act by pleas and arguments stoutly opposed by themselves twelve years ago.

selves to be in a position to comply with proposals which involve the surplus being applied to purposes of a limited, partial, or local character, or to returning to the different localities, in order to be there appropriated to local public objects connected with the progress of art, science, and education, the amount of subscriptions originally raised in each place, which subscriptions were at the time made on the clear understanding that they must be "absolute and definite." The Commissioners would call especial attention to the memorials from the important manufacturing and commercial towns of Birmingham, Bristol, Halifax, Hull, Oldham, Sheffield, and the Staffordshire Potteries, which are appended to this Report, and indicate clearly the strong feeling entertained by those well entitled to form an opinion on this subject, of the importance of establishments for instructing those engaged in trade and manufacture in the principles of science and art on which their respective industries depend." The towns mentioned presented memorials praying for the establishment of a Central Institution of Arts and Manufactures."